

IN THE SPECIFICATION

[19] The disc brake assembly 18 further includes a rotor disc 24, caliper 26, and inboard and outboard brake shoes 28a, 28b positioned on opposing sides of the rotor disc 24. The brake assembly 18 is preferably air actuated and includes an air chamber (not shown) that is coupled to a slack adjuster 30, which cooperates with a camshaft 32 to actuate the brake assembly 18. The camshaft 32 cooperates with a brake piston 34 and the caliper 26 to move the brake shoes 28a, 28b into engagement with the rotor disc 24.

[20] When the braking assemblies 18 are actuated, the air chamber actuates the slack adjuster 30, which is mounted to the camshaft 32. The movement of the slack adjuster 30 ~~20~~ rotates the camshaft 32, which causes a camshaft nut 36 to slide out along the camshaft 32. The camshaft nut 36 exerts a force against the brake piston 34, which pushes the inboard brake shoe 28a against the rotor disc 24. The force of the inboard brake shoe 28a exerted against the rotor disc 24 pulls the caliper 26 in along a pair of slide pins 38 (only one is shown). The slide pins 38 extend through the torque plate 20 and the brake caliper 26. The slide pins 38 ~~28~~ are each supported on a torque plate bushing 40 (only one is shown). The torque plate 20 provides a reaction surface for the caliper 26 that resists the high rotational brake torque forces that are generated during brake applications.

[25] In one disclosed embodiment, the radial location member 50 includes a plurality of male members located or supported on one of the torque plate 20 or axle beam 12 and a plurality of female members located or supported on the other of the torque plate 20 or axle beam 12. The male members are at least partially received within the female members to prevent relative rotation between the axle beam 12 and the torque plate 20. The male and

female members can be formed in various different configurations. This will be disclosed in greater detail below.

[26] The axle beam 12 also includes an axial location feature or member, shown generally at 52, which ~~that~~ positions the torque plate 20 at a ~~the~~ proper predetermined position along a ~~the~~ lateral length of axle beam 12. The axial location feature 52 prevents relative axial movement between the torque plate 20 and the axle beam 12.

[27] Figures 3 through 6 show various embodiments of the radial 50 and axial 52 location members. It should be understood that any of the radial location features 50 could be used in combination with any of the axial location features 52 and vice versa. Further, Figures 3 through 6 show only one end of the axle beam 12. It should be understood that the opposite end of the axle beam 12 includes a similar torque plate mounting interface. Finally, once the torque plate 20 is mounted to the axle beam 12, the disc brake assembly 18 is attached to the torque plate 20 with fasteners 54.

[30] The radial location feature 50 of Figure 4 comprises a first plurality of openings or apertures 70 that are formed in one end of the axle beam 12. ~~The~~ Torque plate 20 includes a cuff portion 72 that includes a second plurality of holes or apertures 74. The first and second plurality of holes 70, 74 are aligned with one another and a plurality of radial pins 76 are inserted into the holes 70, 74. This prevents relative rotation between the axle beam 12 and the torque plate 20. The pins 76 could be integrally formed in or pre-assembled onto one of the cuff portion 72 or axle beam 12. Alternatively, threaded fasteners or other similar fastening elements could be used.

[31] The radial location feature 50 of Figure 5 comprises a plurality of pressed/semi-sheared protrusions 80 formed on an outer circumference of the axle tube 12. A plurality of slots or grooves 82 are formed on an inner circumference of the torque plate 20. The protrusions 80 are received within the slots 82 to prevent relative rotation between the axle beam 12 and the torque plate 20.

[33] The radial location feature 50 of Figure 6 comprises an extruded ring 90 that is welded or press fit onto the outer diameter of the axle beam 12. The ring 90 includes a plurality of teeth 92 formed about the outer circumference of the ring 90. The torque plate 20 includes a plurality of mating teeth 94 formed about an inner circumference. The teeth 92, 94 are intermeshed to prevent relative rotation between the axle beam 12 and the torque plate 20.